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ABSTRACT

An innovative, off-campus course offered by the nursing department at Moorehead State University in Minnesota is described. The course was implemented to meet the requirements of nursing students living in rural towns located some distance from the university department of nursing. This curriculum innovation is examined as a change process that was a significant attempt at faculty and instructional development. The course chosen for redesign, modularization, and mediation was "Altered Physiological Systems." As an independent study course, students proceed at a self-selected pace. The course modules contain all the written activities; information and exercises; and references to required videotapes, slide sets, audiotapes, and to alternative media and course options. Overall student evaluations of the course were generally favorable. Difficulties encountered during the instructional development process are discussed, and the importance of the relationship between the development consultants and faculty members is emphasized. Difficulties that students may have in dealing with such course innovations are also examined. This course is viewed as an attempt to reexamine and restructure learning in terms of clearly defined objectives while maintaining maximum flexibility for the student. (SF)

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DEVELOPMENT OF A MODULARIZED AND MEDIATED COURSE DESIGN IN ALTERED PHYSIOLOGIC SYSTEMS: AN EXERCISE IN FACULTY DEVELOPMENT

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Instructional development consultants working with schools of nursing often face severe problems in encouraging and assisting nursing faculty to innovate within their teaching. The practical problems encountered invariably center on the threat-laden conditions that surround any deviance from the status quo. This article offers an approach that was taken with a small, public university-related, nursing department to develop, in a systematic fashion, a modular, mediated, and off-campus course which would meet the requirements of nursing students living in rural towns located at some distance from the university department of nursing. The major suggestion presented here is that the final course design, along with the process used to reach that product, was in itself a significant attempt at faculty and instructional development.

The ultimate goal of many faculty improvement or teaching improvement programs has been, rather paradoxically, to make themselves redundant by teaching faculty members how to design effective learning systems. Interestingly, course design and instructional development activities among faculty have been most productive in those disciplines developing in dynamic and fluid fashions, as is the case with the nursing profession worldwide.

The goal inherent within any curricular development effort with nursing faculty is to bring a certain degree of familiarity to the following processes of systematic course design: (1) formulation of learning objectives; (2) description of target audiences or students to be served; (3) delineation of content, sequencing of that content, and attendant methodological decisions; (4) development and actual preparation of learning materials; (5) implementation of these learning materials in a pilot study; and (6) evaluation and subsequent revision of these learning materials. What is important, in a practical sense, is to "nudge" nursing faculty to apply all or some of these steps toward their

teaching in such a manner that they are oblivious of consciously having done so. Attendant to this "nudging process" it almost goes without saying, but must be asserted: any educational consultant working with a nursing faculty must be aware of the problems associated with the use of instructional development jargon. These anticipated problems related to jargon or nomenclature should purposely be minimized.

The process utilized in the development of this modular, mediated, and off-campus nursing course was change directed, i.e., it was concerned with where the domain of change existed, the unit of change, and the logistics of change. Additionally, the process was concerned with resistance to change. The assumption of this curriculum change effort was first and foremost that the ideal unit of change is, in many instances, the individual faculty member. Within the nursing discipline, as within most other academic areas, individual freedom of decision is far easier to deal with than collective decision-making. In large departments of nursing, especially, it is often difficult to isolate areas in which the individual can innovate without involving colleagues. This writer has found that group decision-making tends to result in the lowest common denominator of innovative strategy being accepted and the individual originator may find herself in a highly threatening and competitive circumstance. Further, fear of exposure and risk in a peer group are added factors that retard the acceptability of an innovation that might otherwise be perfectly acceptable to a single department member.

A number of years of experience in the process of curricular innovation has also led us to believe that in any curricular process considerable sensitivity must be directed toward an appropriate domain of change. By domain, we mean that area of teaching or learning over which the unit of change, or person, has control. In the case of the individual, this may be a course or series of

courses. In team teaching situations the domain of change may be considerably larger such as an entire component within the nursing curriculum. In this change effort, one course, Altered Physiologic Systems was chosen as the domain of change.

The logistics of innovating even a single course can often be formidable. Nursing faculty often blame the pressures of work for not becoming involved in new curricular initiatives. Factors related to this problem often lie outside the control of the development consultant, but nonetheless, still represent obstacles that need to be alieviated if change is to be pursued meaningfully. In the case of the present development, released time was given the faculty member engaged in the project.

Resistance to change was taken as a given within the development process. However, overcoming resistance, in a practical sense, required considerable finesse on the part of the instructional consultant. It is often desirable, we have found, to begin to localize tentative attempts to innovate on the part of faculty and proceed from that point. Begin where the nursing instructor is. Often by doing this, resistances to further change can be further broken.

The Program in which the Change Effort Occured

The nursing major at Moorhead State University is a two-year course of study requiring fifty credits in upper division nursing courses and additional liberal arts credits to fulfill general studies requirements. The upper division Nursing Program is designed for registered nurses who wish to earn a bachelor of science in nursing (BSN) and/or pursue individual continuing education. Few students in the program attend school full-time; the majority work part-time at local or regional health agencies. Four courses can be taken before formal admission to the program. One of these courses, Altered Psysiologic Systems was the focus of this course development effort. Very

often students enrolled in the nursing program live and work at long distances from the main campus. Many nursing students live as far away as 50 to 80 miles from campus. This potentiates some problems for students in completing courses.

The Course in which the Change Effort Occured

The course chosen for redesign, modularization, and mediation was Altered Psysiologic Systems. This 4-credit hour course focused on alterations of physiological functions which produce the signs and symptoms of selected disease states. The course builds on the students previous understanding of normal anatomy and physiology and provides detailed scientific rationale for nursing interventions and medical treatments. Through the use of case histories and students' personal experiences in the acute-care setting, they are expected to relate normal physiological and patho-physiological concepts to manifestations in selected diseases or conditions.

The only prerequisite to the course was a college-level anatomy and physiology course. Since the focus was on patho-physiology, it was very important that students have a good grasp of the normal structure and functions of the human body.

In an effort to increase accessability of education to area nurses, who, for various reasons, including chiefly distance, found it difficult to come to on-campus classes, this course was chosen first, to be put into an independent, modular study format. Since there was no lab or clinical component, this course was more suitable to this design than others which required a clinical application.

Development of the course into the new, non-traditional format began in July 1978, with the support of a United States Department of Health Education and Welfare Grant awarded to the Department of Nursing at Moorhead State University. The design of the project was completed by March 1, 1979 and was

subsequently made available to the first group of students in the spring of 1979.

Description of Course Format

As an independent study, the student had the freedom to proceed at a self selected pace. Four module booklets which contained an introductory section and ten study modules gave the student assignments and directions on how to proceed.

Many different physical formats for learning modules exist, but the major concern should be the degree to which the module can be self-contained. In this course the modules contained all the written activities, information and exercises, and references to required videotapes, slide sets, audiotapes, and to alternative media and course options. Regardless of the format chosen, however, modules should contain a rationale for the student, all terminal and intermediate performance objectives, self-tests, and answers.

Implementation of the Course

Students enrolled in the course at the beginning of the spring term by completing a special registration form. This form was sent to the nursing department and then forwarded to the Admissions Office. The text, workbook, and four module booklets were purchased by the student and study was begun whenever the student wished.

Since this was the first time the course was offered in this format, and since this was the pilot run of the course, students were encouraged to try to complete the course by the end of the quarter. This would allow time for evaluation and revisions before offering the course again in the fall term. Several students, however, did require an extention of thirty days time for completion. Results were scrutinized for clarity and validity. The initial

field-test thus exposed any gross errors in the printed and visual materials.

Evaluation of the Course

All students finishing the course were asked to complete an individual module evaluation as well as an overall evaluation of the course. Overall evaluations were generally favorable with the largest criticism being that the workload was too heavy. Most comments for improvements were concerned with ways of shortening study time, such as deleting articles and videotapes, avoiding duplication of charts and graphs in workbooks which could be found in the text, and including a list of important concepts from readings and text. Other suggestions were to include a brief review of anatomy and physiology in each module, to increase the number of charts and graphs, and to assign a case study with every unit.

Conclusions

The development of systematic instructional materials calls for a set of replicative procedures including the identification of the target audience; analysis of the content to be taught and delineation of behavioral objectives; determination of teaching strategies; selection of appropriate media; development of prototypes; evaluation of the prototypes (field tests) and improvement of the prototypes based on feedback.

One of the most difficult problems nursing instructional developers face is that of having to work with inexperienced clients who are unaware of how much time, thought and energy are necessary to design and implement a new instructional system, especially one that is modularized, mediated, and intended for off-campus use by a heterogeneous group of students. Invariably, nurse educators and administrators associated with development projects tend to set their goals far too high and must constantly be reminded that these goals

must be adjusted downward. Leading an educator into believing that a great deal more can be accomplished than what is realistically possible is a serious matter, not to be taken lightly by the instructional developer, both in terms of strict accountability and from an attitudinal standpoint. While this problem did surface early in this developmental effort, it was also faced early, and resolved. Instructional developers working with nursing departments must never promise more than they can deliver!

Since the instructional development process is so highly relational, the relationship between the development consultant and the faculty member or members is extremely important. Often an instructional developer, as he or she moves from project to project, forgets that the curriculum development process is often new, and at times traumatic, for a faculty member. During the entire development of a course his or her assumptions about pedogogy will be under a microscope as these assumptions are tested.

While a project is under development, a nursing faculty member may find himself or herself under some considerable pressure from colleagues. There will always be come resistance to change, and since the faculty member working on the project may be the chief innovator in her department at that moment, she will probably bear the brunt of any resistance. Out of this project came the realization that the instructional developer must also attempt to reduce whatever departmental resistance that may be present by working closely with the department chairman and the faculty member's colleagues.

Finally, we observe in regard to participating faculty, that there will, at times, be disagreements in the developmental process between the nursing faculty member and the instructional developer. Sometimes these differences, if minimal, can be tabled and dealt with at a later time. It is usually best, we have found, to effect instructional change in small increments, first

emphasizing the broader concepts, and then, as work begins on individual instructional modules, by carrying the redesign into smaller, applied elements.

Such innovation can also be difficult for students, especially those students exposed to the first pilot run of the redesigned course. Often projects have begun on the wrong foot because insufficient time was spent on planning for student orientation. Most projects, as did this one, represent major changes in procedure and responsibility. Students must often be taken step by step through the course process with particular attention given to the areas for which they are responsible. This is especially important if the course includes options and independent study. If the present course failed at any point, it would be here, as many students during the pilot run needed guidance in getting started. A requirement was subsequently made that students must allow time for orientation to the course before taking their independent modules back to their study region. Telephone calls and at least one personal contact with the course coordinator were to be encouraged during the time a student would be taking the course. Emphatically we must assert, that while our course design allowed for the constant monitering of student response to the course, course designers do at times tend to forget that the course is for the student, not for the designer or the course coordinator!

This modularized and competency-based course was an attempt to reexamine and to restructure learning in terms of clearly defined objectives. While setting high standards for performance, this approach maintained maximum flexibility for the student in relation to time commitments and subject matter requirements and for the institution in relation to uses of its resources. Clearly, then, this experience proved to be not only an exercise in course redefinition and development, but also a clearly successful exercise in faculty development. The department of nursing and the university were clearly served by this experiment in terms of the personal growth and awareness of the instructional process experienced by participating nursing faculty.